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METHOD FOR ENGINE CONDITION CONTROL WITH TURBOCOMPRESSOR CONTROLLABLE BYPASS

ABSTRACT OF THE DISCLOSURE

A system for a turbocharged internal combustion engine includes an engine having a charge inlet connected to the compressor outlet and an exhaust outlet connected to the turbine inlet for driving the turbocharger with hot exhaust gas and supplying compressed air to the engine for combustion. A bypass duct connects the compressor outlet to the turbine inlet for diverting a portion of the compressed air around the engine to the turbine inlet or exhaust. A control device selectively controls the diversion of air. An operating method for the system involves controlling peak cylinder firing pressure and/or maximum turbine inlet temperature, optionally with exhaust NOx and smoke in order to limit these variables to acceptable limits with a minimum of operational limitations.